A NEW SPECIES OF *DIOPTOPSIS* FROM CALIFORNIA (DIPTERA: BLEPHAROCERIDAE)

By Charles L. Hogue[1]

Abstract: Described in the genus *Dioptopsis* is a new species of net-winged midge, *D. alpina*. Adult males, females and pupae are recorded only from northern California. The species is most closely related to *D. arizonica* Alexander, from Arizona.

In order to make its name available for a forthcoming review of the California Blepharoceridae planned for the Bulletin of the California Insect Survey, I am describing the following new species in the genus *Dioptopsis*.

I am grateful to Dr. J. Powell, University of California, Berkeley-California Insect Survey [CIS] and to Dr. Alan Stone, Entomology Research Division, A.R.S., United States Department of Agriculture (United States National Museum) [USNM] for making available to me the material upon which this species is based. Thanks also are due Mrs. L. McTernan for assistance in the preparation of the illustrations.

Dioptopsis alpina, new species

Figures 1 through 9

Adult female:

Size. Small: measurements as follows (lengths in mm from allotype):

Overall body: 5

Wing: 8.5

Legs:		fore	mid	hind
femur		4.6	5.2	6.1
tibia		4.3	4.3	5.6
tarsis	1	2.51	1.86	2.16
	2	.96	.80	.81
	3	.53	.47	.43
	4	.30	.31	.29
	5	.48	.49	.41

Coloration. General integument evenly testaceous, lightly sclerotized. Mesoscutum gray, finely pruinose; scutellum and pleuron clear yellow, likewise finely pruinose. Abdominal sternites pale yellow, tergites gray like mesoscutum with pale yellow caudal borders. Legs testaceous proximad,

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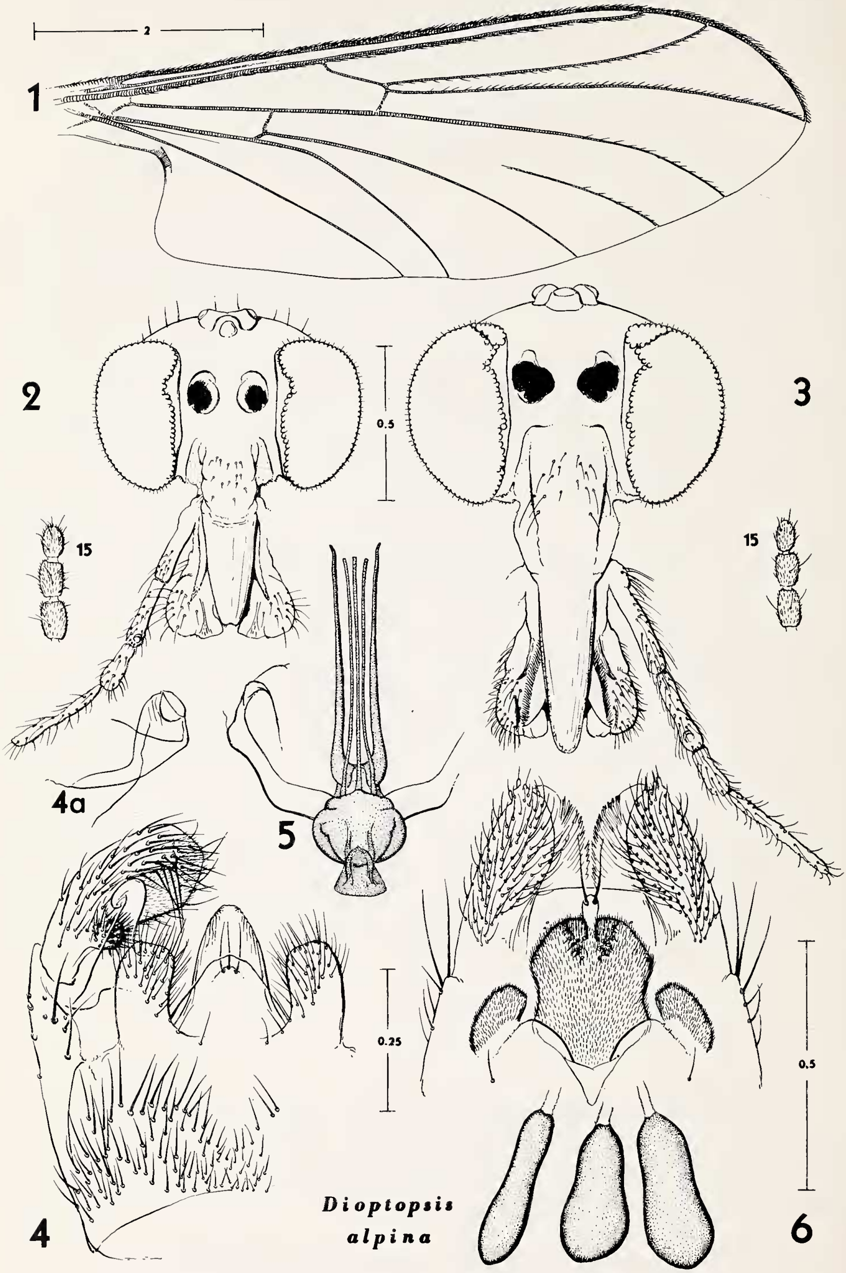
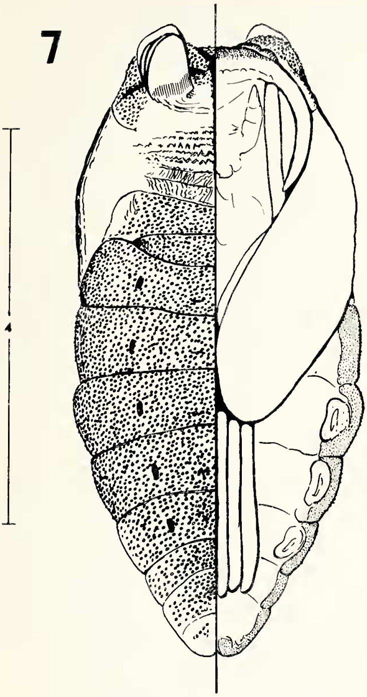
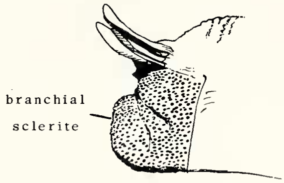
[1] Curator of Entomology, Los Angeles County Museum of Natural History.



Dioptopsis alpina

7





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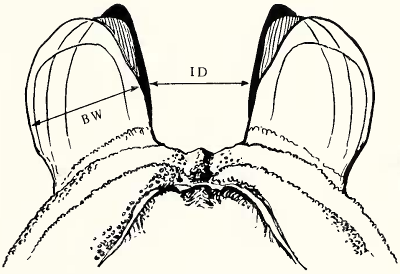

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Interbranchial Index = $\frac{ID}{BW}$

Dioptopsis alpina

becoming moderately darker distad. No conspicuous markings of any kind on any part of body or appendages.

Head. As figured (Fig. 3). Eyes widely separated; upper division of eye very small, comprising only a poorly differentiated hemi-lenticular area of 4 to 5 rows of ommatidia; ommatidia of both eye divisions equal in size. Antennae short; 15 segmented; shape and size of flagellar segments about equal except basal which is 1.4 length of adjoining distal segment, ultimate segment slightly smaller than penultimate. Mouthparts with normal elements, mandibles present; hypopharynx with well-developed marginal teeth, those on the tip about half the size of lateral.

Thorax. Scutellum with small, dense setal patches at outer corners; scattered, fine setae mesad across posterior border. A few short, fine setae on lateral wings of anterior pronotum. Other sclerites nude. Legs with tibial spurs 0-1-2, spur of mid tibia very small; fore basitarsus somewhat bowed upward in allotype (artifact?). Wing shape, venation, and trichiation as figured (Fig. 1); membrane entirely hyaline.

Genitalia. As figured (Fig. 6). Spermathecae elongate, slightly swollen cephalad, one slightly smaller than other two.

Adult male:

Size. Small: slightly smaller than female; measurements as follows (lengths in mm from holotype):

Overall body: 4.5

Wing: 6.4

Legs:		fore	mid	hind
femur		3.4	4.0	5.0
tibia		3.4	3.5	2.7
tarsis	1	2.1	1.72	1.78
	2	.84	.77	.64
	3	.58	.54	.39
	4	.36	.36	.28
	5	.36	.36	.30

Coloration. Essentially as in female.

Head. As figured (Fig. 2). Eyes widely separated; essentially undivided, upper division even less well-differentiated than in female. Antennae short; 15 segmented; shape and size of flagellar segments about equal except basal which is narrowed proximad and 1.4 length of adjoining distal segment; ultimate segment slightly smaller than penultimate. Mouthparts with mandibles absent. Tip of labrum slightly emarginate; hypopharynx evenly tapering to a narrowly truncate tip, lateral margins with obsolescent teeth.

Thorax. Thoracic chaetotaxy as in female. Legs with tibial spurs 0-1-2, mid small as in female; fore basitarsus straight. Wing as in female.

Genitalia. As figured (Figs. 4 and 5).

Pupa:

Size. Medium, length typical specimen: 6.2 mm. Interbranchial index (see Fig. 9 for definition) = .86.

Structure. As figured (Figs. 7 to 9). General shape subfusiform. Transverse dorsal mesoscutal rugae zigzagging. Branchial sclerite beaded and strongly swollen cephalad, projecting laterally over the frontal sclerite (Fig. 8).

Material:

Holotype male (genitalia, head and wing on slides Nos. CLH 641105-3, 6607-1, and 6608-2 resp.): *Alpine Co.*, Lake Alpine, 15 July 1950 (L. W. Quate) [USNM].

Allotype female (genitalia and head on slides Nos. CLH 650504-6 and 6607-2 resp.): same data as holotype.

Additional specimens: 11 pupae and pupal skins: same data as types. 16 pupal skins: *El Dorado Co.*, Fred's Place, 5 July 1950 (L. W. Quate) [CIS].

Diagnosis:

Dioptopsis alpina is most similar to *D. arizonica* Alexander, 1958, described from the Sierra Ancha Mountains of Arizona. The two species form a distinctive division of the genus characterized by nearly undivided eyes in both sexes, IX tergite lobes of the male genitalia apically truncate and very short (nearly as broad as long), spermathecae elongate and the mid tibia with only one, tiny spur.

Unfortunately, *arizonica* is known only from a single male, which is a poor specimen, having been in a teneral state when collected. It is therefore not possible to complete the diagnosis with *alpina*. Essential differences are apparent nevertheless in the male genitalia (Figs. 4 and 5) especially in regard to the shape of the tip of the inner lobe of the dististyle (Figs. 4a and 6). There is a cup-shaped depression or apodeme here in *arizonica*; this lobe is simply recurved like a button-hook in *alpina*.